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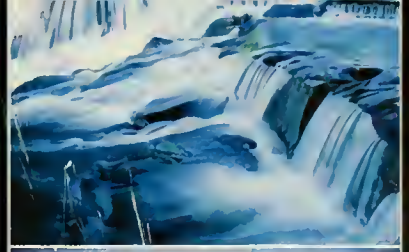
MONTANA

CITIZEN PREPAREDNESS THROUGH YOUTH LEADERSHIP

A GUIDE TO STUDENTS' SERVICE PROJECTS FOR SCHOOL & COMMUNITY SAFETY AND DISASTER PREPAREDNESS FROM MONTANA



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INTRODUCTION

21ST CENTURY STUDENTS – "TECH-SAVVY" SERVICE LEARNERS

Kids and service go together like peanut butter and jelly. They just seem to fit. Add technology to the mix and the results can be dynamic! That is what happened in Montana when the Office of Public Instruction (OPI) combined efforts with the University of Montana's Division of Educational Research and Services (DERS) to implement the Citizen Preparedness Through Youth Leadership Homeland Security grant. In our rural and sparsely populated state, students in six school districts took the lead in developing innovative and dynamic service-learning projects focused on enhancing school and community safety as well as pro-actively preparing our communities to cope with natural or man-made disasters. Technological tools including Geographic Information Systems (GIS), Global Positioning Systems (GPS), Internet, computer software programs and video and editing technologies became the means our students employed to produce service-learning projects of a most innovative and dynamic nature. The CPTYL story will capture your attention and imagination. So, let's begin at the beginning.

Montana Office of Public Instruction
Linda McCulloch, Superintendent
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Division of Educational Research and Service
DERS

THE HISTORY OF THE CPTYL PROJECT

A collaborative effort blending the Montana OPI and the University of Montana DERS

The Montana Office of Public Instruction has supported service learning since its inception in 1993. Our OPI Service Learning Director, June Atkins, worked diligently over time to develop a strong connection with the Corporation for National and Community Service (CNCS) and encouraged schools in Montana to employ service learning as a tool for teaching and learning. So, there was great excitement around the state in 2004 when the Montana Office of Public Instruction was awarded a Learn and Serve America grant to fund the CPTYL grant in sites around the state.

The Montana Office of Public Instruction (OPI), in partnership with the University of Montana, Division of Educational Research and Service (DERS), sought to collaborate with state Disaster and Emergency Services personnel, schools, community and faith-based organizations to enhance the safety and security of schools and communities through its **C**itizen **P**reparedness **T**hrough **Y**outh **L**eadership (CPTYL) project. The CPTYL grant utilized the Learn and Serve model to engage students in activities designed to meet the unique Homeland Security needs of a rural, sparsely populated state with a high propensity for natural and man-made disasters, potential terrorism and community safety concerns. It was the intent of the project that "*students develop leadership and citizenship skills as they assume essential roles in assessing school and community needs for emergency/disaster preparedness planning.*" (Project Application 04KSO41175, Montana Office of Public Instruction 3/2004).

Montana's unique homeland security issues result from the nature of its population and geography. Montana is a huge state. Within its borders are 145,552 square miles. Yet our population is fewer than 1,000,000 people. In fact, the largest city in Montana, Billings, has fewer than 100,000 residents. In addition, we share over 600 miles of primarily unsecured border with Canada. And, our potential for soft target attacks highlighted the need to train students, school and community citizens to assist in the development of crisis and/or emergency preparedness plans.

LOCATIONS OF CPTYL SITES

PLENTYWOOD – NORTHEAST CORNER
LIBBY – NORTHWEST CORNER
MISSOULA – WEST CENTRAL
LEWISTOWN – CENTER OF STATE
LOCKWOOD – SOUTH CENTRAL
HARDIN – SOUTH CENTRAL

PART TWO

A LOOK AT THE CPTYL SITES

Six sites were chosen to participate in the CPTYL Learn and Serve project beginning in the 2004-05 school year. Montana's unique homeland security issues result from the rural and isolated character of its population and geography. As is also true in other sparsely populated areas, poverty is a contributing factor in our vulnerability. Eligibility for free and reduced-price school lunches ranges from 20 percent to 73 percent in the CPTYL sites. Consequently, Montana is a state with potential emergency/homeland security needs that are as diverse as the sites are themselves. All six of the communities selected fall within the top half of the Montana Disaster and Emergency Services rating for disaster vulnerability. In addition, in 2005, Montana had the second highest rate of youth suicide in the nation – a statistic that gives us all a feeling of vulnerability. The communities are Hardin (which includes the Crow Indian Reservation), Lewistown, Libby, Lockwood, Missoula and Plentywood. The following pages give a little background information about the project sites. Thereafter, we'll take a long look at the CPTYL projects.

HARDIN

Our first site is the seat of Bighorn County. It is located on the banks of the Bighorn River and near the Little Bighorn Battlefield National Monument. In addition, the 525 ft. Yellowtail Dam, which was closed to visitors after the 9/11 attack, is located just southeast of Hardin. Hardin is a small town with about 3,500 multi-cultural residents. Hardin's residents are about 60 percent white, and about 36 percent American Indian with a sprinkling of other ethnic heritages.

Hardin's school system serves approximately 1,400 students in grades K-12. They call themselves the fighting Bulldogs. In their quest to enhance the community's safety, the Bulldogs and Bullpups of Hardin's middle and high schools focused primarily on increasing the community's capacity to respond to natural and man-made disasters and emergencies.

Hardin's Learn and Serve Coordinator is Kandi Luther who can be contacted at the Hardin School District's address of Route 1, Box 1001, Hardin, MT 59034-9707or by e-mail at lutherk@hardin.k12.mt.us.

LEWISTOWN

Our second site is a town of about 6,000 citizens in the very center of Montana. It is a quiet town with many outdoor recreational opportunities. This isolated, idyllic looking, agrarian area is also dotted with Minuteman missile silos. Lewistown's population is nearly 96 percent white. American Indians, Asians and others make up the remaining 4 percent of the population.

Spring Creek is one of the town's primary water supplies as well as a prized fishing spot. The creek flows right through the heart of Lewistown. Among other projects, students in Lewistown's Junior High School - population 228- focused on Spring Creek as an important community resource in avoiding potential disaster.

The Learn and Serve Coordinator at Lewistown Junior High is Lorena Spoja who can be reached at Lewistown Junior High, 914 West Main Lewistown, MT 59457 or by e-mail at lspoja@lewistown.k12.mt.us.

Downtown Lewistown

Spring Creek, Lewistown

LIBBY

Our third site is Libby, a town of 2,600. Geographically, Libby is in the extreme northwestern corner of Montana in a valley carved by the Kootenai River. The Libby Dam, built by the Army Corps of Engineers, spans the Kootenai River about 17 miles north of town. This dam confines the river and creates the 90-mile-long Lake Koocanusa, which extends into Canada. Huge generators at the dam provide electricity to the Pacific Northwest. The Libby Dam and power plant are considered soft targets in proximity of 80 miles of mountainous border terrain without surveillance.

Libby's school system is Pre-K-12 and serves 1,231 students from the area both in and out of town. The high school itself has a population of 568 students called the Libby Loggers. Of those students, 16 took the lead in developing Libby's projects, which included a critical infrastructure database for Lincoln County.

The Learn and Serve coordinator is Jael Prezeau who can be reached at Libby K-12 School District 4, 724 Louisiana Avenue, Libby, Mt 59923 or by e-mail at prezeauj@Libby.k12.mt.us.

Libby Dam

LOCKWOOD

Lockwood, Montana is located just across Interstate 90 from Billings, Montana in the southeastern part of the state. It is separated from Billings by both the highway and by the Yellowstone River that flows just to the northeast of this small town of 4,306 residents, a large majority of whom are white. Lockwood, which is near the site of oil refineries, has been designated a flood hazard area by FEMA.

Lockwood has its own school system that serves 1,250 students from Kindergarten through 8th grade. After grade 8, Lockwood's students attend high school in Billings. At Lockwood School the Middle School boasts 430 students. It is among those Middle School students that Service Learning blossomed during 2004-2006 as the students devised methods of enhancing safety in their school and community.

Cindy Gopp is the Learn and Serve Coordinator at Lockwood school. She can be reached at Lockwood Elementary School, 1932 US Highway 87, Billings, MT 59101 or by e-mail at goppc@lockwood.k12.mt.us.

MISSOULA SENTINEL HIGH

Missoula is a growing city of approximately 60,000 people. Located in west-central Montana it is a short distance to the Idaho border in three directions. By national standards Missoula is considered rural; by Montana standards it is considered urban. Missoula's growth has stretched its borders from a mountain valley into several of the surrounding canyons. It lies on an earthquake fault and has several dams upriver. Missoula is divided north from south by the Clark Fork River. The Blackfoot and Bitterroot Rivers border Missoula on the east and west.

Missoula is home to the University of Montana. It is also the site of regional medical services as well as the forest service and Fish, Wildlife and Parks (FWP) offices. The school system in Missoula is a K-12 system with three in-town public high schools and a satellite high school in Seeley Lake, Montana. The Learn and Serve CPTYL grant was implemented at Missoula Sentinel High School. The school of 1,140 serves students grades 9-12, who are 95 percent white. Two sister schools, Hellgate and Big Sky, are located in the eastern and western edges of town. In their efforts to strengthen their community and enhance its safety Sentinel's students included pro-active planning for safety issues ranging from earthquakes to human/bear interactions.

The Learn and Serve Coordinator for Missoula-Sentinel is Kristine Miller. She can be reached at Sentinel High School, 901 South Avenue West, Missoula, MT or by email at kamiller@mcps.k12.mt.us.

PLENTYWOOD

The community of Plentywood, population 2,000, is the seat of Sheridan County and is located in the far northeastern corner of Montana. It is rural and remotely located and is representative of small communities with sparse population many miles from emergency services.

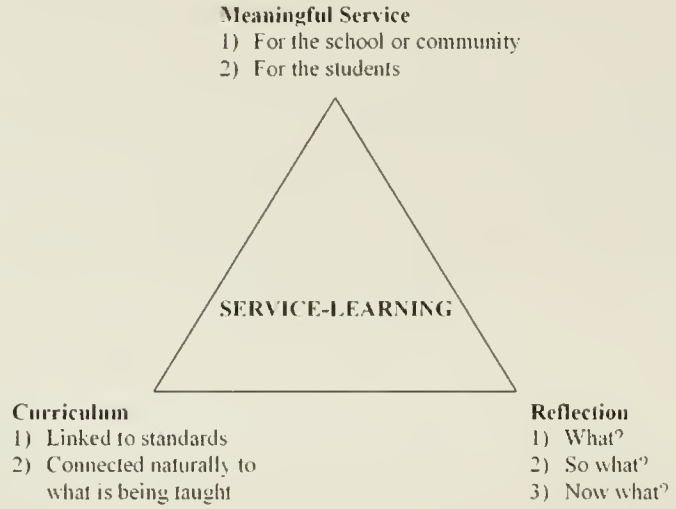
In addition, Plentywood is located along the approximate 600 miles of virtually unguarded Montana/Canadian border. The border location and the brisk Canadian trade it allows enhances the economy of the area which is primarily farming and ranching. The Burlington Northern Santa Fe Railroad parallels the border and traverses across the state through Glacier National Park. Extreme climate fluctuations common to the area create expansion and contraction issues for the railroad infrastructure, making derailments common, thus increasing the likelihood of hazardous waste leakage.

Plentywood School has approximately 396 students K-12. About 246 students are enrolled in grades K-8 and 150 in the 9-12 high school program. Eighty-three of the Plentywood students focused their efforts on developing service learning projects to enhance the community's safety in multiple fashions.

The Learn and Serve Coordinator for Plentywood is Margo Thompson who can be reached through Plentywood School District 20, 100 East Laurel Avenue, Plentywood, MT 59254 or by e-mail at wildcatslearning@hotmail.com.

PART THREE
UNDERSTANDING SERVICE LEARNING

The CPTYL program intended to utilize the Learn and Serve model to engage students in activities designed to meet the unique Homeland Security needs of Montana. However, without a clear idea of the facets of service learning, students and teachers are not well prepared to develop projects. The Office of Public Instruction offered several opportunities for staff, students and community members to "brush up" on and extend their knowledge of the critical elements of service learning.



Graphic model of service learning from the Corporation for National and Community Service

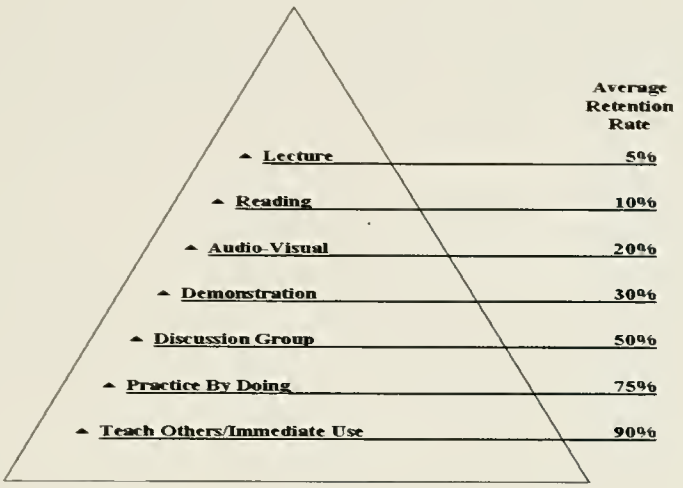
In October of 2004 students and staff from Learn and Serve grant sites attended the annual Montana Youth Leadership Learn and Serve Conference in Billings, Montana. The conference focused on service-learning projects with demonstrations and hands-on experiences for both students and staff. All attendees at the conference were introduced to the CPTYL grant and given an overview of the three types of service projects covered by the CPTYL umbrella: disaster preparedness, community and school safety, and conflict resolution. Students had time to brainstorm about their own communities, to generate ideas for CPTYL projects and think about the curricular connections their ideas suggested. It was during this conference that ideas hatched for many of the projects featured in this model.

In January of 2005, Dr. Kate Cumbo provided a technical assistance workshop to grantee coordinators and staff. The Logic Model was introduced to grantees through use of the Corporation for National and Community Service Learn and Serve Programs: Homeland Security
Standardized/Common Performance Measurements format. The following day, Dr. Cumbo presented a half day workshop for all CPTYL staff reviewing the Elements of Service Learning from the Corporation for National and Community Service. Her power point presentation to faculty and staff included the seven elements from the CNCS web site listed below:

SEVEN ELEMENTS OF SERVICE LEARNING

- **Meet a recognized need in the community** which students can do by providing short-term assistance addressing a community need; providing ongoing assistance addressing a community need; or working toward a lasting solution to a community problem.

- **Achieve curricular objectives through service learning** which can be done by incorporating service learning into a unit; using service learning to unify the teaching of content and skills throughout the year; or teaching content and/or skills in different disciplines using service learning throughout the year. The curricular value of service learning is illustrated in the learning pyramid on the following page.



- **Reflect through service-learning experience,** which you can do by asking students to contemplate their service-learning experience and respond at the end of the experience; or asking students to contemplate their service-learning experience and respond throughout the process.

- **Develop student responsibility** which you can do by establishing choices for students in how they implement the teacher-planned service learning; sharing the responsibility with students for service-learning development and implementation; or facilitating student definition, coordination and implementation of service-learning.

- **Establish community partnerships,** which you can do by consulting with the community partner yourself for information and resources; asking students to interact with community partners; or collaborating together with teachers, students, and community partners as an action team.

- **Plan ahead for service learning** which you can do by planning service learning independently; or collaborating with colleagues, students and others to plan service-learning.

- **Equip students with knowledge and skills needed for service** which you can do by presenting the knowledge and skills at the beginning of the experience or by presenting the knowledge and skills as the needs arise or as the project changes.

In September of 2005 Dr. Cumbo was once again on center stage as the featured speaker at the annual MYLC Service-Learning Conference held in Lewistown, Montana. Among other topics Dr. Cumbo presented to students and staff was the Service-Learning Quadrant. Students at the conference heard, saw and experienced activities designed to communicate the efficacy possibilities in service learning. When the conference ended all of the participants could explain the quadrant illustrated on the following page, they could give examples of each type of service learning and articulate the reason that High Service/High Learning is the ideal. This activity made a huge impact on the participants' understanding of the difference between community service and service learning.

SERVICE-LEARNING QUADRANT

Low Service **High Learning**	**High Service**** **High Learning****
Low Service **Low Learning**	**High Service** **Low Learning**

Students and faculty not only received training in service-learning strategies and techniques, they also participated in trainings provided by the University of Montana Division of Educational Research and Services, Northwest Regional Educational Labs, I-Safe, Web Wise Kids, the National Coalition Building Institute and other providers. Those resources enabled students to build knowledge base and acquire skills needed for the projects they envisioned.

Students at Sentinel participate in a coalition building workshop.

PART FOUR
COMMUNITY AND SCHOOL SAFETY ENHANCED BY YOUTH USING TECHNOLOGY

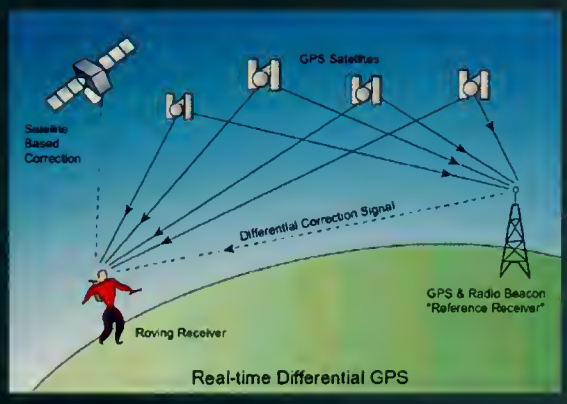
Youth in the 21st century live in a technological world where they are the first generation natives. Give kids today the technological training they love and they can apply that technology to solving real community needs. The CPTYL partnership between the Montana Office of Public Instruction and the University of Montana's Division of Educational Research and Services did just that.

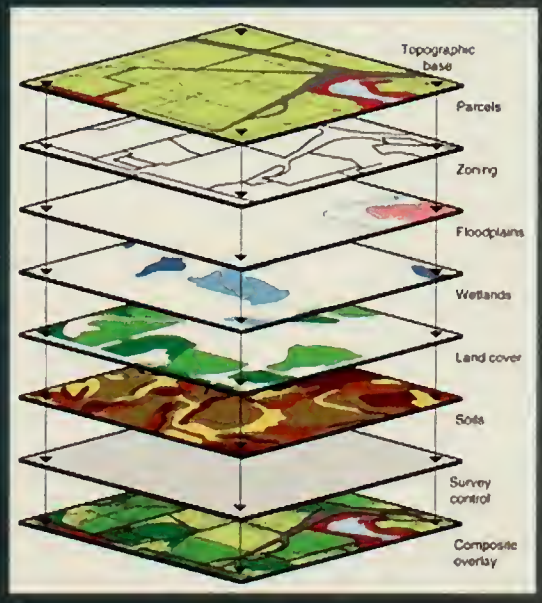
HIGH TECH TRAINING WITH WAY POINTS AND GEO CACHES

DERS offered classroom training in the use of GIS/GPS technology to students and teachers in the CP-TYL sites. During the 2004-05 school year, each site had a minimum of two days of training that was provided in the students' own classrooms. Hundreds of Montana students learned the basics of Geographic Information Systems and the "how to" of Global Positioning Systems. The students ate it up!

In addition to the basic training sessions, students who attended the Montana State Leadership Conferences in 2004 and 2005 participated in workshop sessions and hands-on geocaching activities designed to hone students' skills. The kids, on fire with the excitement of using such cool technology, were quick to identify school and community safety and disaster preparedness needs in their own communities that could be addressed using their new- found skills.

Of course, students also saw how other technology could be used to address school and community safety and disaster preparedness needs. They generated ideas for ways to include video, internet, and a variety of software programs into service projects in the community. The service-learning project descriptions that follow are a sampling of the projects students generated - organized by the type of technology used.





PROTECTING OUR COMMUNITIES WITH GIS/GPS TECHNOLOGY

JUNE ATKINS - OFFICE OF PUBLIC INSTRUCTION/LEARN AND SERVE	
HARDIN SHELTER IN PLACE EMERGENCY SHELTERS & SUPPLIES	**PLENTYWOOD** FIRE HYDRANTS & ATTRIBUTE TABLE
LEWISTOWN SPRING CREEK - TOWN WATER SUPPLY	**MISSOULA SENTINEL** URBAN/WILDLANDS INTERFACE & BEARS
LIBBY FLOOD PLANE & CRITICAL INFRASTRUCTURE	**LOCKWOOD** FIRE EXTINGUISHER & HANDICAPPED ACCESS

HARDIN - SHELTER IN PLACE

USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

20 HIGH SCHOOL STUDENTS AND NINE 4TH & 5TH GRADERS PROVIDED SERVICE TO THE ENTIRE TOWN OF HARDIN.

SAFETY ISSUES

DISASTER PREPAREDNESS, CITIZEN SAFETY

CURRICULUM CONNECTIONS

TECHNOLOGY, CIVIC ENGAGEMENT & SOCIAL SCIENCES

PROJECT DESCRIPTION

STUDENTS, IN COLLABORATION WITH HARDIN AREA CHURCHES, DEVELOPED FIVE NEW EMERGENCY SHELTER SITES IN LOCAL CHURCHES. MINISTERS FROM THE CHURCHES ASSISTED STUDENTS IN SURVEYING EACH OF THEIR FACILITIES FOR COMPLIANCE WITH AMERICAN RED CROSS REQUIREMENTS.

WHEN EMERGENCY SHELTER LOCATIONS WERE ESTABLISHED, STUDENTS USE GIS/GPS TECHNOLOGY TO MAP THE LOCATIONS OF THE EMERGENCY SHELTERS AS WELL AS THE TOWN'S FIRE HYDRANTS. THE MAP, CREATED BY STUDENTS, IS PROVIDED TO ALL HARDIN AREA DISASTER AND EMERGENCY SERVICES.

PARTNERS

BIG HORN COUNTY DES

CROW TRIBAL DES

BUREAU OF INDIAN AFFAIRS DES

AMERICAN RED CROSS

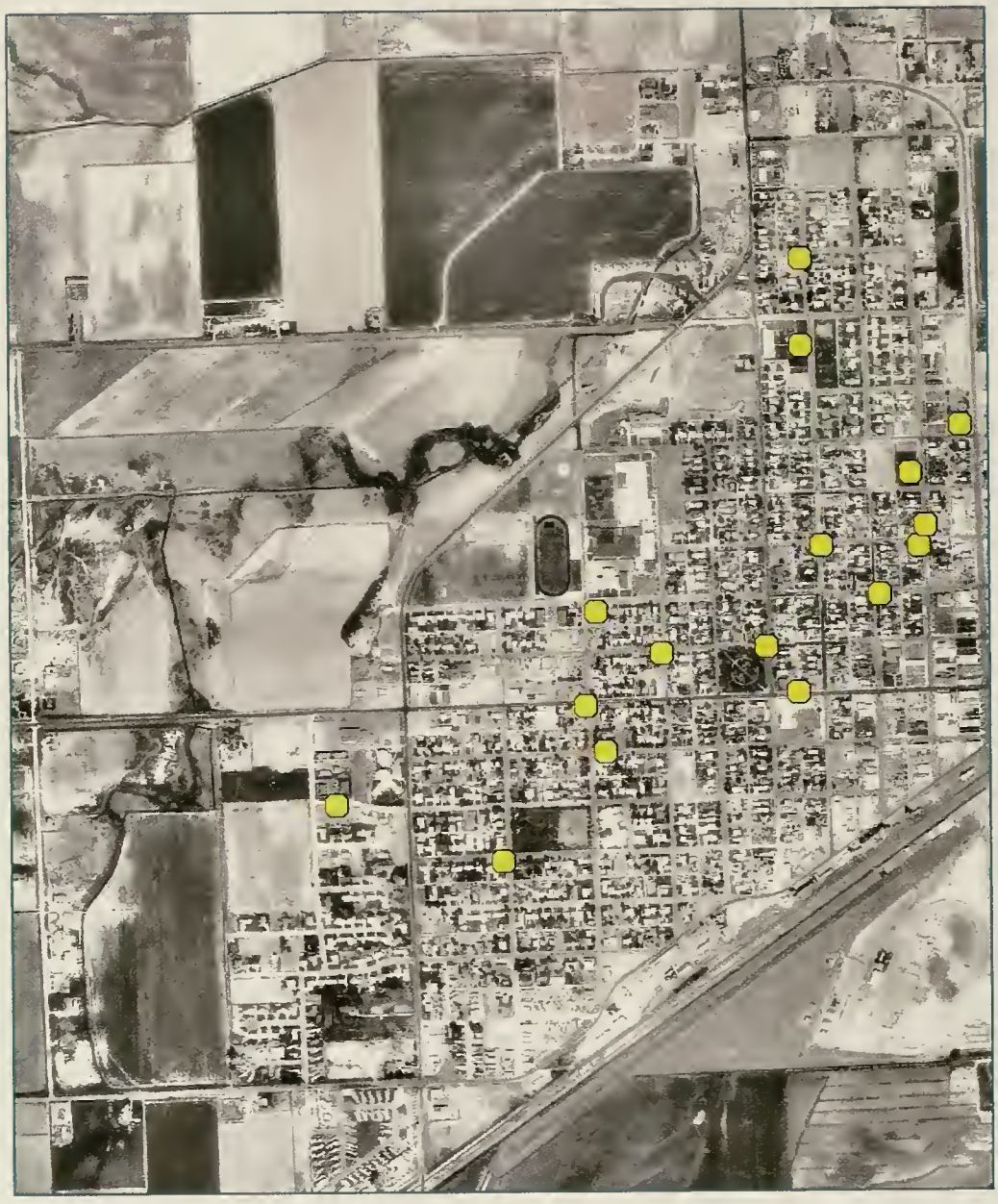
Service-Learners in Hardin, Montana, involved themselves in school and community efforts for disaster preparedness. The students started their efforts by participating in training designed to assist them in developing their projects. These students attended up to 50 hours of training including Leadership, Shelter in Place, BIA Scenario training, and GIS/GPS training.

In turn those students assisted in training other youth and adult beneficiaries. In fact, over 100 youth participated. Of those students 62 spent 40 or more hours in service helping to make their community safer and more prepared for disaster.

The Emergency Shelter project really had two distinct parts. The first focused on student collaboration with the Ministerial Association. Five of the Association members agreed to designate their churches as emergency shelters. In partnership with the American Red Cross, those facilities were the subjects of an audit to determine that they met the Red Cross requirements. When that step was finished, students from Hardin High School used their GIS/GPS skills to mark the "way points" for each shelter. "Way points" were plotted on a map of Hardin allowing anyone to see clearly the location of each of the five emergency shelters.

A supplement to the shelter map includes the location of the town's fire hydrants. Students located them, plotted the locations with their GPS units, and added the layer indicating the proximity of fire hydrants to emergency shelters. The completed map was made available to all emergency agencies.

GPS SHELTERS MAP



Map created by Hardin Middle School Students

LEWISTOWN - SPRING CREEK

USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

20 LEWISTOWN JUNIOR HIGH STUDENTS, MEMBERS OF THE GIS CLUB PROVIDED SERVICE TO ALL OF THEIR COMMUNITY.

SAFETY ISSUES

PRIMARY WATER SUPPLY & TERRORIST ATTACK/INVASION

CURRICULUM CONNECTIONS

SCIENCE, CIVIC ENGAGEMENT, LOCAL GEOGRAPHY

PROJECT DESCRIPTION

IN COOPERATION WITH THE NATURAL RESOURCE CONSERVATION SERVICE AND THE WATERSHED COUNCIL, THE JUNIOR HIGH GIS/GPS CLUB CREATED A MAP OF THE BREWERY FLATS AREA OF SPRING CREEK, WHICH FLOWS THROUGH LEWISTOWN AND IS THE PRIMARY WATER SUPPLY. THE CLUB MEMBERS PLOTTED THE COURSE OF SPRING CREEK, ASSESSED THE HEALTH OF THE CREEK, AND DEVELOPED A BROCHURE FOR THE BREWERY FLATS ENVIRONMENTAL EDUCATION CENTER.

THE CLUB ALSO USED GIS/GPS SKILLS TO MAP A HOMELAND SECURITY SIMULATION RELATED TO THE LOCATION OF A "TERRORIST" CAMP.

PARTNERS

DISASTER & EMERGENCY SERVICES

WATERSHED COUNCIL

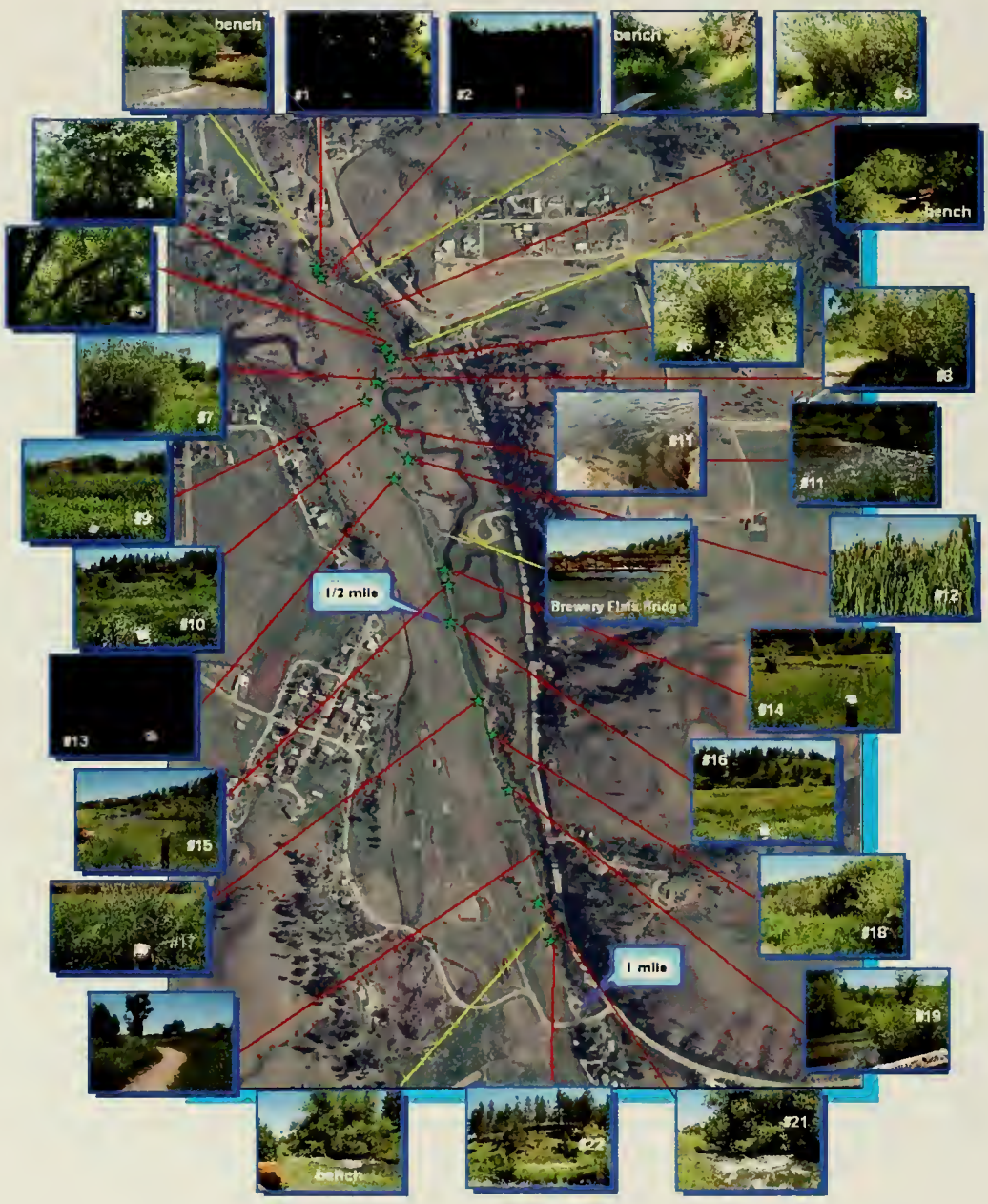
NATURAL RESOURCE CONSERVATION SERVICE

In Lewistown, Montana, 13 Junior High GIS club members first had to apply to have the opportunity to participate in the club. The application included an essay written for the club sponsor, Ms. Flentie. The students inducted into the club received 13 hours of GIS/GPS training before they launched into multiple activities with their newly honed skills. Ultimately, they mapped Points of Interest Four Mile Walking Tour Loop Map of Lewistown and Running Trail for Tourists as well as mapping the Brewery Flats Area of Spring Creek. The Creek is the town's primary water supply and LJH students increased their knowledge of it significantly in the process of mapping points, and assessing the health of the Creek.

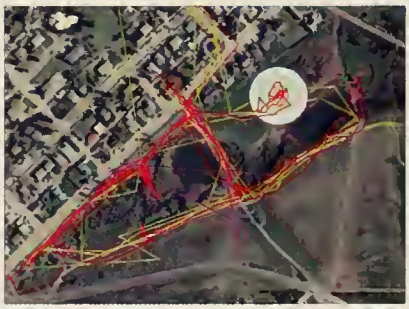
The GIS Club practiced their GIS/GPS skills in an activity with a distinctly Homeland Security focus. The students practiced their GIS/GPS skills in a simulated terrorist camp activity. An open area of town, near a pond and not too far from the school, was chosen as the site. An undisclosed location was designated as a terrorist hidden base camp with a buffer zone 40-feet in diameter.

In this simulation game students were assigned to groups. Each group was given different sets of coordinates that took them to clues, the clues led them to the next set of way points and more clues. After locating the first three points, each group had to download the tracks from the GPS to determine whether they had inadvertently wandered into the terrorist camp. The small maps tell the story.

BREWERY FLATS TRAIL MAP



Created by Lewistown Junior High GIS Club



LIBBY - FLOWER CREEK DAM
CITY CRITICAL INFRASTRUCTURE
USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

20 LIBBY HIGH STUDENTS PROVIDED CRITICAL DISASTER PREPARATION INFORMATION TO THEIR COMMUNITY.

SAFETY ISSUES

FLOOD AND CRITICAL INFRASTRUCTURE

CURRICULUM CONNECTIONS

TECHNOLOGY, MATH, SCIENCE & CIVIC ENGAGEMENT

PROJECT DESCRIPTION

FLOWER CREEK DAM IS LOCATED JUST ABOVE THE CENTER OF LIBBY. A BREECH OF THE DAM WOULD FLOOD THE TOWN. USING GIS/GPS TECHNOLOGY, STUDENTS SUCCESSFULLY COMPLETED DIGITAL ELEVATION MODELS FOR THE LIBBY AREA THAT ILLUSTRATED WHERE WATER WOULD GO IN CASE OF A FLOOD FROM FLOWER CREEK. THEIR WORK SUGGESTED THAT THE EXISTING USGS FLOOD PLANE MAP WAS INACCURATE. THE STUDENT INFORMATION WAS FORWARDED TO THE USGS AND STATE DES WHO AGREED. IN ADDITION, THE SAME STUDENTS CREATED A CRITICAL INFRASTRUCTURE MAP OF THE AREA WITH AN ASSOCIATED LIST OF ATTRIBUTES.

PARTNERS

LINCOLN COUNTY EMERGENCY MANAGEMENT AGENCY

LINCOLN COUNTY DES

LINCOLN COUNTY LAW ENFORCEMENT

LIBBY VOLUNTEER AMBULANCE AND FIRE

US ARMY CORPS OF ENGINEERS

Students from Libby's Central School work on GIS/GPS projects.

CRITICAL INFRASTRUCTURE - LIBBY

Not all students are motivated by traditional school practices. That is the case for students at Libby's Central School, an alternative for some students. Central School students, however, became enthused and excited when they experienced opportunities to work with powerful technology. They also found academic motivation in service. Their teacher, Dean Herried, introduced the students to GIS/GPS technology and the rest is history. Students at Central School were fired up. So fired up, in fact, that they were asked to present their work on the Flower Creek Dam flood plane and Critical Infrastructure of Libby at the National Youth Leadership Conference in Philadelphia, March 2006. Libby's hi-tech service projects became so well known in Montana that Assistant Superintendent of Public Instruction Nancy Coopersmith included the following reference to them in her February 2006 state Title I address in Billings, Mt.

In Libby there is a really exciting service learning project that serves students in the Libby alternative high school. The students received Geographic Information Systems training and are working closely with county disaster and emergency services, and county law enforcement officials to enhance the county GIS database. I don't know about you, but GIS is a new and difficult concept for me! But these students are experts. They do this technical work while connecting it to their math and science curricula. The Libby Learn and Serve students are receiving national recognition for their efforts and will be presenting their project at the National Youth Leadership Conference this March in Philadelphia.

Not only did these students present in Philadelphia, they have continued to develop additional projects as requested by community agencies in Libby as well as in the nearby town of Troy. In the case of Libby, cutting edge technology and high school students have combined to make the entire area a safer place to live.

LOCKWOOD - SCHOOL FACILITY SAFETY

USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

8 MIDDLE SCHOOL STUDENTS AT LOCKWOOD SPEARHEADED THE EFFORT TO MAKE THEIR SCHOOL SAFER FOR ALL 1,200 STUDENTS - AS WELL AS THEIR STAFF!

SAFETY ISSUES

SCHOOL FACILITY SAFETY, HANDICAP ACCESS & EGRESS

CURRICULUM CONNECTIONS

SCIENCE, PUBLIC SPEAKING & CIVIC ENGAGEMENT

PROJECT DESCRIPTION

STUDENTS IN MRS. GOPP'S EXTENDED STUDIES CLASS PARTICIPATED IN OVER 37 HOURS OF TRAINING IN HOMELAND SECURITY TOPICS. THEN THEY GOT TO WORK! FIRST THE STUDENTS USED THEIR GIS/GPS SKILLS TO MAP THE LOCATION OF ALL FIRE EXTINGUISHERS IN THE SCHOOL. THEN THEY EXAMINED THE LOCATIONS IN RELATIONSHIP TO FIRE REGULATIONS. THEIR STUDY PROMPTED RELOCATION OF SOME FIRE EXTINGUISHERS. NEXT, USING GIS/GPS TECHNOLOGY IN COMBINATION WITH OTHER SCIENCE SKILLS, THE STUDENTS FORMED TEAMS AND CONDUCTED RESEARCH ON ADA REGULATIONS. THEY DEVISED A RUBRIC TO EVALUATE EACH SCHOOL EXIT AND ASSESSED EVERY ONE ACCORDING TO SIX CRITERIA FOR HANDICAP ACCESS INCLUDING FORCE, IN NEWTONS, REQUIRED TO MOVE THE DOOR. AS A GROUP, THE STUDENTS CHOSE WHICH DOORS SHOULD BE MARKED AS PRIMARY HANDICAP EXITS AND PRESENTED THEIR FINDINGS TO APPROPRIATE GROUPS.

PARTNERS

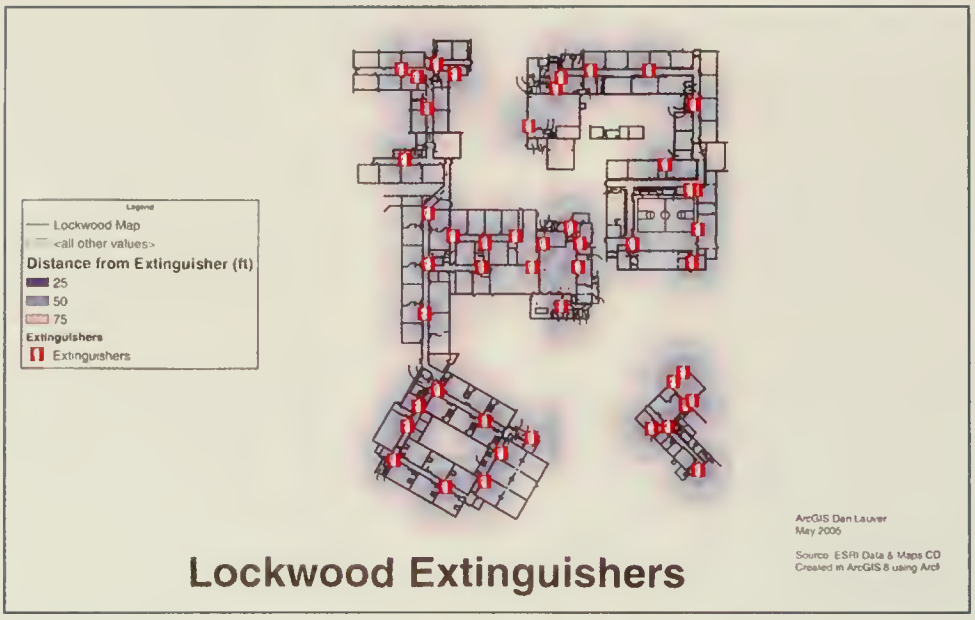
YELLOWSTONE COUNTY DISASTER AND EMERGENCY SERVICES

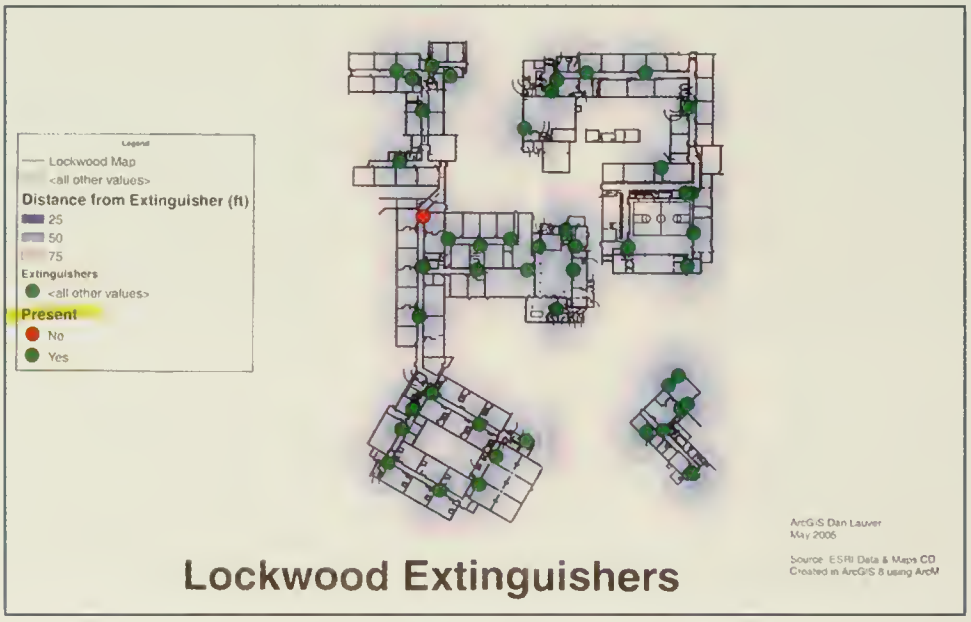
LOCKWOOD FIRE DEPARTMENT

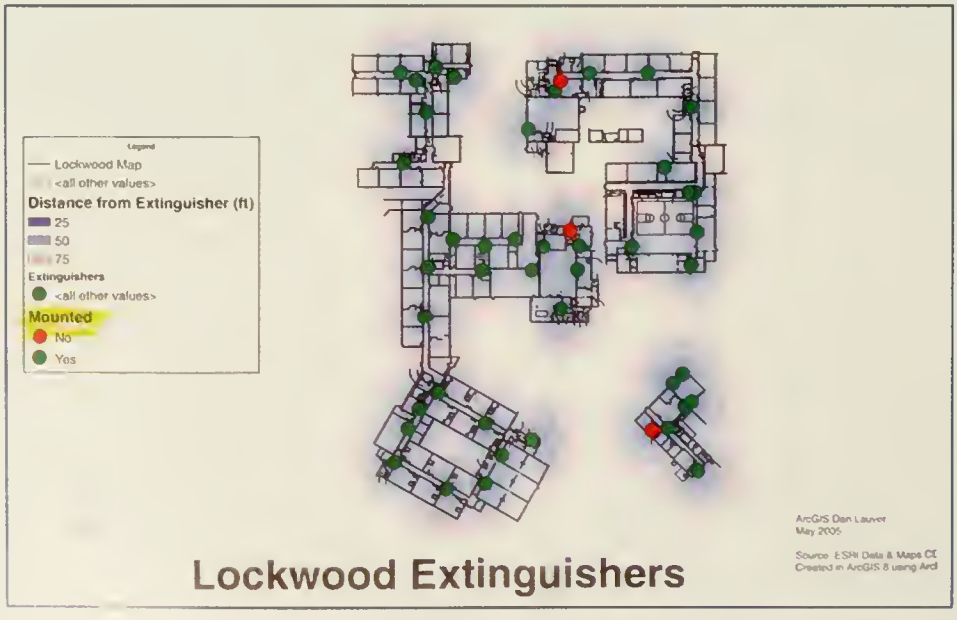
Service learners at Lockwood Middle School developed critically important projects using their technology skills. The location of fire extinguishers, in relationship to fire department regulations, is an important aspect of school safety as are provisions for handicapped students, staff and community members to gain entrance or egress from the buildings. Not only did the students perform an important service for themselves, they helped to teach 70 other students and adults the basics of GIS/GPS and, those students were still not finished with their work.

The students gave presentations to many groups. They presented to the Student Council of their school. They presented to their faculty, to their Administration and to their School Board. And, in March of 2006, the students polished up their work and took a presentation to the National Youth Leadership Conference in Philadelphia where audience members were awed. These middle school aged students gave such a professional and compelling presentation that a high school principal from the state of Washington asked to have a videotaped copy of it!

STUDENT MAPS - LOCKWOOD







MISSOULA - URBAN BEARS
USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

STUDENTS IN MR. MESSERMAN'S EARTH SCIENCE CLASSES MAPPED THE WILD LANDS URBAN INTERFACE TO HELP MAKE MISSOULA A SAFER PLACE FOR BOTH PEOPLE AND WILDLIFE.

SAFETY ISSUES

HUMAN/BEAR INTERACTIONS IN THE URBAN/WILD LANDS INTEFACE.

CURRICULUM CONNECTIONS

SCIENCE,TECHNOLOGY, GEOGRAPHY CIVIC ENGAGEMENT

PROJECT DESCRIPTION

WESTERN MONTANA IS BEAR COUNTRY. MISSOULA, A SMALL URBAN CENTER HAS GROWN UP THROUGH CANYONS ADJACENT TO THE VALLEY AND RIGHT INTO THE WILDLANDS THAT ARE BEAR HABITAT. AS A RESULT, UNWANTED HUMAN/BEAR INTERACTIONS OCCUR MULTIPLE TIMES EACH YEAR. IN PARTNERSHIP WITH FWP, STUDENTS STUDIED THE URBAN/WILDLANDS BOUNDARY AREA. THEY MAPPED IT AND EXAMINED THE RESULTS IN AN EFFORT TO IDENTIFY BEAR ATTRACTING AREAS, THE ATTRACTANTS AND PRACTICES DESIGNED TO REDUCE THE INCIDENCES OF UNWANTED HUMAN/BEAR INTERACTIONS.

PARTNERS

MONTANA FISH, WILDLIFE AND PARKS

BE BEAR AWARE AND THE NATURE CONSERVANCY, BROWN BEAR RESOURCES

WINDRIVER INSTITUTE

Students who attended the Montana YLC in Billings in the fall of 2004 brainstormed ideas for enhancing safety in the Missoula area. They focused on urban bears partly because a bear had just been trapped in the backyard of a home fewer than three blocks from Sentinel High School! As these students brainstormed, they realized that urban bears are a safety issue in the Missoula area, particularly since many Missoulians live in proximity to wild areas. The basic idea of a community safety project was born then and there.

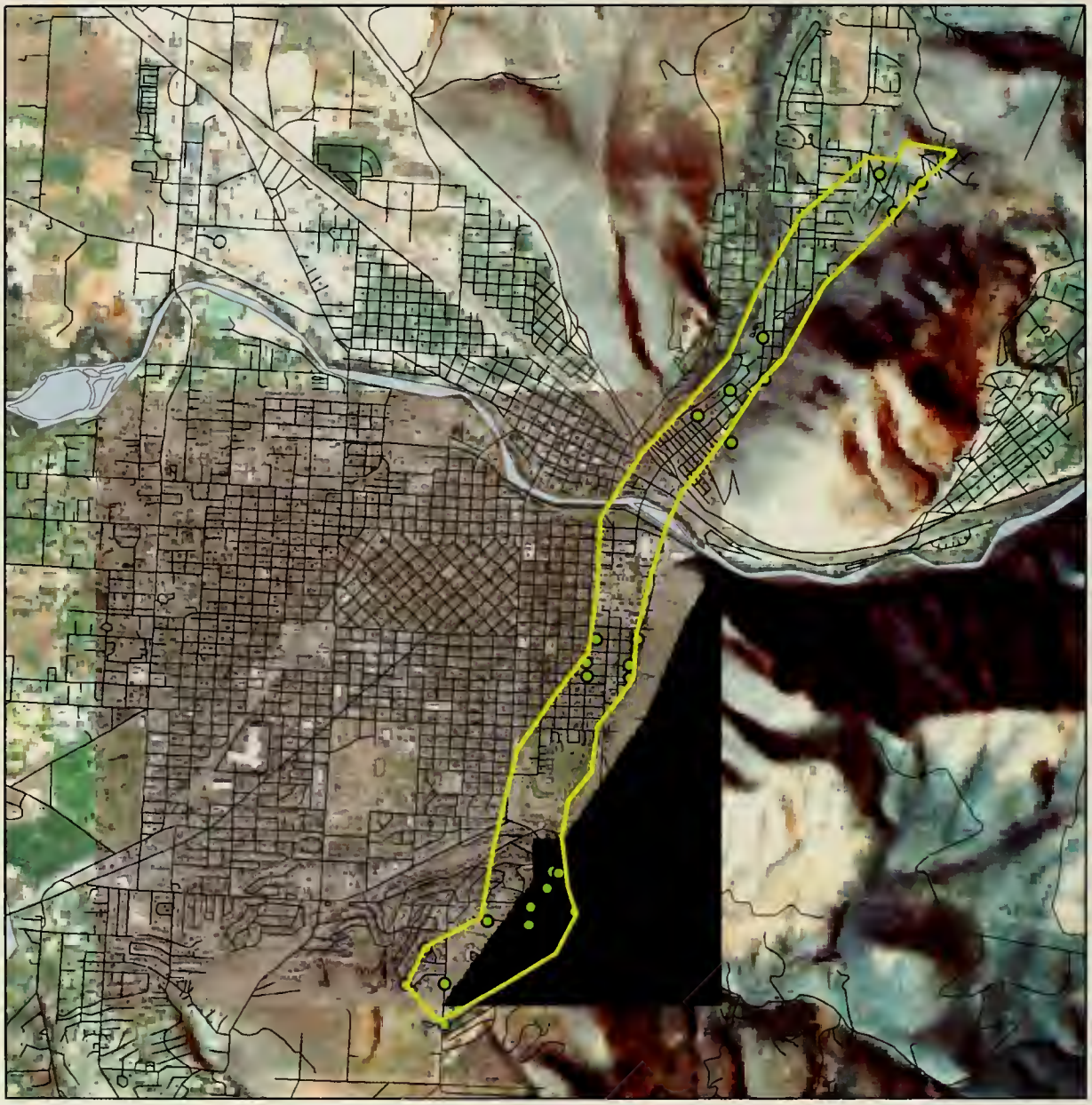
At student and staff request, Mr. Craig Messerman volunteered to let his Earth Science Classes, made up primarily of freshmen, participate in the GIS/GPS training from DERS. The students were enthusiastic and committed to walking the eastern perimeter of Missoula, marking "waypoints" and mapping a buffer zone called the wild-lands urban interface. The resulting map demonstrates how much of Missoula's eastern residential areas are located in bear country. The following pictures and map illustrate the work done by those high school freshmen.

Earth Science teacher, Craig Messerman, demonstrates use of GPS unit.

Photos: Jennifer Gale

Students of Earth Science use GPS units to mark way points in the Rattlesnake Valley.

URBAN BEAR BUFFER ZONE
EAST EDGE OF MISSOULA AND RATTLESNAKE VALLEYS



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This map is a preliminary report of the "bear buffer zone" as plotted and mapped by Mr. Craig Messerman's Earth and Space Science students. The purpose of this project is to plot the complete buffer zone around Missoula, and to add actual bear sighting and encounters within the Missoula urban area.

0 800 1,600 3,200 Meters

The Urban Bear project has more than one very practical safety aspect. Missoula is not only in bear country, our city's population is growing rapidly. People move from many parts of the country to Missoula. One of the motivations for those moves is the area's quality of outdoor life. Missoula residents take advantage of the close proximity of forested mountain lands for recreational activities such as hiking and Frisbee golf (folf)– a popular sport in the area. And, the locals often take their children right along with them. Not all of Missoula's citizens are "up to snuff" when it comes to noticing bear sign in recreational areas. Lack of awareness has led to incidents of unwanted human/bear interactions.

The students and teacher of Sentinel's Wildlife Biology program responded to the need for public awareness and education. They partnered with Fish, Wildlife and Parks, Be Bear Aware, Brown Bear Resources, and the Windriver Institute to bring an outdoor hiking safety lesson to 5th grade students. High school students mentored the 5th graders through a mock hiking trail, complete with multiple examples of various bear signs, which had been set up in a wooded area in the buffer zone. The hiking trail area is really the site of bear activity. High school students put their wildlife biology lessons to work and 5th grade students learned how to be safer while recreating in the woods. The "bear trail" was also open to the public on the Saturday following the elementary activity.

PLENTYWOOD FIRE HYDRANTS

PLENTYWOOD - FIRE HYDRANTS
USING GIS/GPS TECHNOLOGY

SERVICE LEARNERS & BENEFICIARIES

37 OF PLENTYWOOD'S MIDDLE SCHOOL STUDENTS PROVIDED A SERVICE TO MAKE THE ENTIRE COMMUNITY SAFER!

SAFETY ISSUES

FIRE SAFETY

CURRICULUM CONNECTIONS

SCIENCE, CIVIC ENGAGEMENT, GEOGRAPHY

PROJECT DESCRIPTION

THE PLENTYWOOD FIRE DEPARTMENT'S MAP OF CITY FIRE HYDRANTS CONSISTED OF PUSH-PINS ON A CITY MAP. STUDENTS FROM THE LOCAL MIDDLE SCHOOL USED GIS/GPS TECHNOLOGY TO MAP THE LOCATION OF ALL CITY FIRE HYDRANTS AND TO COLOR-CODE THEM ACCORDING TO AN ATTRIBUTE TABLE THAT INCLUDED AGE AND DISTANCE TO NEAREST BUILDINGS. THE MAP WILL ENABLE THE CITY TO REPLACE OLD HYDRANTS REGULARLY, WHICH COULD LOWER THE CITY'S INSURANCE RATINGS.

PARTNERS

SHERIDAN COUNTY DISASTER & EMERGENCY SERVICES

CITY OF PLENTYWOOD

SHERIDAN COUNTY FIRE DEPARTMENT

GIS/GPS projects at Plentywood Middle School really connected with the middle school curriculum and provided the impetus for a good deal of learning. Not only did these students learn the GIS/GPS technology they used in their project, they also reviewed parts of a map including the title, legend, directional arrows and scale. After the review each student constructed a map of their own.

Then the students were ready to think about community needs. The first need that caught these kids' eyes was the trash located on a path between the school and the downtown area where students go for lunch. The trash was becoming a problem for businessmen and homeowners. That trash provided both an opportunity for middle school students to be "engaged" in their community, and a perfect practice for data collection and GPS use.

Students walked the paths from school to local restaurants and stores. They marked "waypoints" for trash and also for trash receptacles. Then they created a map showing the relationship between trash and trash receptacles. What they found was that most of the litter on the ground was within a short distance of a receptacle. This GIS/GPS practice run was the birth of a "Trash-It" campaign at Plentywood Middle School and just the excitement they needed to become motivated to go back into the community and map all of the fire hydrants as well as six attributes for each. The resulting maps are prized possessions of the County Fire Department, County Disaster and Emergency Services and the City of Plentywood.

MONTANA YOUTH PROMOTE PREPAREDNESS USING COMPUTER TECHNOLOGY

For young people in the 21st century, computer use is an integral part of daily life. So, it is no surprise that when students in the six CPTYL sites thought about ways to assist their communities' safety and disaster preparedness efforts, the young people thought in terms of using computers in those efforts. Among the projects students promoted were computerized poster making and desktop publishing. What follows are examples of student ideas put to work helping communities be safe.

SERVICE LEARNERS & BENEFICIARIES

Service Learners in Lockwood use desktop publishing to create refrigerator magnets with community safety information for their town.

SAFETY ISSUES

Disaster preparedness

CURRICULUM CONNECTIONS

Computer technology, Public Speaking

PROJECT DESCRIPTION

Service Learners at Lockwood Middle School designed a compact disaster preparedness refrigerator magnet that included emergency numbers, wildfire safety, contents of a 72 hour emergency kit, and procedures for shelter in place. The students had 500 magnets made. Then, they developed an agenda for a community safety meeting. At the meeting the students not only presented information but also passed out the refrigerator magnets.

PARTNERS

DES

Yellowstone County Fire

SERVICE LEARNERS & BENEFICIARIES

Service Learners in Missoula design earthquake safety posters for their community, which sits on a earthquake fault.

SAFFTY ISSUES

Disaster preparedness

CURRICULUM CONNECTIONS

Earth Science, Computer Techonolgy , Civic Engagement

PROJECT DESCRIPTION

Earth Science students at Sentinel High School studied multiple elements of earthquakes including seismography, local earthquake occurrences, and earthquake safety procedures. They worked in teams to produce earthquake safety posters for the community. In addition, the students worked with school officials to revise the earthquake drill procedures at Sentinel.

PARTNERS

Missoula County Emergency Services

Missoula County Public Schools Safety

PROTECTING OUR YOUTH THROUGH INTERNET SAFETY

Technology, fabulously interesting and motivating as it is to our youth, does have some pitfalls. Some of those perils are related to the Internet. On line chat rooms, blogs, and teen focused "spaces" can be dangerous playgrounds for our youth. Adults with hidden agendas can masquerade as youth. Individuals with mischief in mind can post unflattering or offensive information about others. The identity of persons who visit in chat rooms and post on "spaces" is never a sure thing. And, since young people are becoming more computer savvy at younger ages, the dangers inherent in Internet use can effect younger and younger children. To make matters worse, parents often feel secure that their children are safe when the kids are at home engaged in Internet activities. What to do? For students, the answer to this dilemma was to address the community need with service-learning.

SERVICE LEARNERS & BENEFICIARIES

SERVICE LEARNERS IN MISSOULA AND PLENTYWOOD PARTICIPATED IN INTERNET SAFETY TRAINING THROUGH THE CPTYL GRANT. THEN PROVIDED INTERNET SAFETY MENTORING TO YOUNGER STUDENTS.

SAFETY ISSUES

SCHOOL AND COMMUNITY SAFETY

CURRICULUM CONNECTIONS

COMPUTER TECHNOLOGY, CIVIC ENGAGEMENT, SCHOOL AND COMMUNITY SAFETY, PUBLIC SPEAKING

PROJECT DESCRIPTION

SERVICE LEARNERS AT MISSOULA AND PLENTYWOOD PARTICIPATED IN UP TO 20 HOURS OF INTERNET SAFETY TRAINING OF SEVERAL TYPES. THROUGH THE TRAINING THEY LEARNED ABOUT PERILS RELATED TO INTERNET USE. THOSE STUDENTS DEVELOPED LIVELY AND INTERESTING PRESENTATIONS APPROPRIATE FOR YOUNGER STUDENTS. THE INTERNET SAFETY MENTORS GAVE THEIR PRESENTATIONS TO YOUNGER STUDENTS AT NEIGHBORING SCHOOLS. THE RESULTS WERE ELECTRIC! MENTOR STUDENTS WERE SO ENCOURAGED BY THE RECEPTION GIVEN THEM THAT PLANS FOR NEXT YEAR WERE GENERATED AS SOON AS THE OLDER STUDENTS RETURNED TO SCHOOL.

PART FIVE

ENHANCING SCHOOL AND COMMUNITY SAFETY THROUGH YOUTH LEADERSHIP

Among the essential elements stressed in the CPTYL grant was development of youth leadership. Predicated on the notion that today's youth are tomorrow's leaders, the authors of the grant believed that youth in the 21st century are the most important asset our nation has at its disposal. When it comes to school and community safety, disaster preparedness, and conflict resolution the youth in six CPTYL sites demonstrated an overwhelming interest in participating in the planning and implementation of projects and a fantastic willingness to spend time devoted to security topics.

CPTYL projects were not limited to ones involving technology. Students and staff in our six towns busied themselves with multiple projects that required less of technology but just as much of commitment. A review of those projects, by town, follows. Even though these projects are reviewed in less detail than the technologically involved ones, more in-depth "how to'" information is available from the individual sites.

HARDIN - 772 YOUTH PARTICIPATED IN...

- Developing a rural addressing program in an area where many residences had no recorded address for emergency purposes.
- developing a school and community disaster plan of action that included crisis management teams and outreach to five area schools.
- conflict resolution training and implementation of conflict resolution practices in the school.
- safety surveys of the schools and playgrounds that resulted in adjustments to the facilities.
- planned evacuations with student observers who completed checklists and presented the results to the school and community.
- development of a disaster preparedness tool incorporated in a calendar for easy posting and viewing.
- establishing a Citizen Preparedness Council with student participants.

LEWISTOWN - 224 YOUTH PARTICIPATED IN...

- peer Mediation training and implementation of a Peer Mediation program using high school students as mediators for junior high students.
- identification of bullying as a serious student concern in the junior high school that led to anti-bullying training for all students.
- We the Jury – a student sized look at the jury system in the United States that allows youth to participate in a mock trial. The Lewistown Junior High students took their experience to the elementary school in the form of a trial for one of the *Three Little Pigs*.
- researching and assembling of crisis preparedness lock down kits for the school.
- CPR and First Aid training in their Family and Consumer Science classes. Even though the students are too young to be certified, they did demonstrate increased knowledge and felt they would be more effective when they took care of younger children.

- Self-Improvement Through Education and Service (SITES), a volunteer program developed as an alternative to out-of-school suspension.
- organizing and participating in the Uganda Book Project
- participating on the Citizen Preparedness Council
- presenting at NYLC in Philadelphia in March of 2006.

LIBBY - 73 YOUTH PARTICIPATED IN...

- Developing and implementing a cross age peer-mentoring project. High school aged students were trained as mentors for "at-risk"elementary school students. The process proved to be beneficial for both the mentors and their trainers. It has been so successful that there are more elementary youth requesting mentors than high school students are available to be trainers.
- promoting efforts for Libby High School proper to offer a GIS/GPS class as an elective for high school credit.
- providing GIS/GPS training for students in Troy and Eureka High Schools.
- developing GIS/GPS maps for areas outside Libby. One map was the Fish River Boundary map with water supplies and ISO five miles up and down the river and a similar map for the Cabinet View Fire Department including Boundary and water supply with five mile ISO.
- helping to develop the Citizen Preparedness Council (CPC) and sit on that Council.
- giving two presentations at NYLC in Philadelphia, one on GIS projects and one for the mentoring project.

LOCKWOOD - 374 YOUTH PARTICIPATED IN...

- the Lockwood School CPR project. Ten Lockwood Middle School students completed standard Red Cross CPR training with the idea of training others. Thereafter, those ten students assisted the Red Cross in training 135 other students at Lockwood Middle School.
- researching the contents for 72-hour Emergency Kits and making kits for their community.
- teaching students in outlying schools about 72-hour Emergency Kits which the outreach schools assembled for their own communities.
- developing school wide (Lockwood has three buildings) evacuation plans and presenting them to the school administration.
- designing and implementing a Good School Behavior Award Program and were responsible for its implementation.
- developing a local CPC in which the students participated.
- presenting at NYLC in Philadelphia.

MISSOULA - 1,000 YOUTH PARTICIPATED IN...

- researching contents and assembling 100 6- hour lockdown emergency kits, one for each room in the school.
- videotaping, evaluating and reporting results of a school wide evacuation/relocation emergency drill. Students made recommendations for improved procedures.
- participating in a table top emergency traffic pattern planning session when a reconfiguration of streets near the school changed access for emergency vehicles.
- building a play yard for the children of a pregnant and parenting teen program located on the Sentinel campus.
- developing coalition-building exercises in conjunction with constructing a Diversity Garden (where tolerance grows) at the school.
- attending peer mediation and negotiation training to re-vitalize the Peer Mediation Program at the school.
- promoting the adoption of Protecting You/Protecting Me as an elective class at Sentinel. Students learned about the program at NYLC and were convinced it would be just what the school district needs to diminish underage drinking.
- designing and making quilts for child victims of hurricanes Katrina and Rita.

PLENTYWOOD - 310 YOUTH PARTICIPATED IN...

- taking data and developing a "*trash it*" campaign to decrease litter in the town.
- developing a formal Emergency Operations Manual for the school including a formal command structure.
- training for conflict resolution to be applied to the school community.
- researching 72-hour Emergency Kits and disseminating that information to the Plentywood community.
- presenting at NYLC.
- making 2,000 people in the Plentywood area more aware of disaster and emergency issues.

PART SIX
LESSONS LEARNED

Reflection is an essential element in Service Learning. And, so it is fitting that we reflect on the lessons learned from our efforts in the CPTYL Grant. Some of our reflections are almost amusing. For example, Missoula learned not to stock their 6-hour lockdown kits with plastic gallons of water. The darned things leaked right out of the seams when left alone over the summer. Leaks caused other contents of the kit to become soggy and just plain icky. So, don't do it! Other lessons learned might tempt the reader to respond with, "Well, duh!" For example, it is unanimous that kids like to "do stuff"" more than they like to hear about doing stuff. Big shock! Then there are other, more serious musings such as the feedback we received from our CPTYL program evaluator.

As the outside evaluator for this grant, Dr. Don Robson of the University of Montana, Department of Education, set out to find answers to five fundamental questions:

- What is the effectiveness (quality) of each service-learning grantee program funded by the state of Montana CPTYL project?
- How do the service-learning grantee programs affect youth participants' engagement in school?
- How do the service-learning grantee programs affect youth participants' engagement in the community?
- How do the service –learning grantee programs affect youth participants' engagement in leadership roles and activities?
- Did the service –learning grantee programs impact Homeland Security (Community Safety) as a result of project activities?

Dr. Robson's efforts to answer the questions included providing each CPTYL site with data collection tools. The tools included excel workbooks with pages for training records for participants and beneficiaries as well as spreadsheets for partnerships for each project. And, importantly, spreadsheets on which school staff recorded, in pre-post form, seven measures of student performance including: class work/homework assignment completion, attendance, disciplinary actions, academic performance, leadership skills demonstrated and community involvement.

Staff members in the CPTYL sites were asked to assess each service-learning student participant in those seven areas both before and after the student was involved in service-learning. Workbooks were completed by staff at the end of both year one and year two of the grant. Dr. Robson's compiled the results for year 1, year 2 and for the grant period as a whole. The data for this model comes from Don Robson's final report of July 15, 2006.

An example of the workbook for student assessment is found on the following page.

Teacher Report Form - Youth Participant School Engagement and Academic Performance

Teacher name: _____ **Date Completed:** _____

During the past school year, students in your class have participated in Service Learning. Based on your observation, for each student identified below, please indicate whether or not they have demonstrated improved school engagement (assignment completion, attendance, disciplinary actions and/or overall school involvement) and increased academic performance, leadership skills, and community involvement.

Student Identifier (use names or student codes)	**Intermediate Outcome**									**End Outcome**			**End Outcome**			**End Outcome**		
	Improved class/home assignment completion			**Improved Attendance**			**Decreased Disciplinary Actions**			**Improved school involvement**			**Increased academic performance**			**Increased Leadership skills**			**Increased Community Involvement**		
	Yes	No	student has maintained high level all year	Yes	No	Student has maintained high level all year		No	Student has maintained zero disciplinary actions all year	No		student has maintained high level all year		No	student has maintained high level all year		No	student has maintained high level all year	Yes	No	student has maintained high level all year

On the following pages readers will find a review, question by question, of the data and conclusions from Dr. Robson's final report of July 15, 2006.

Question 1 .

What is the effectiveness (quality) of each service-learning grantee program funded by the state of Montana CPTYL project?

In evaluating each individual grantee for effectiveness (quality) Dr. Robson relied on reports written by each grantee in the format of standard Service Learning reports rather than the excel workbooks. The evaluator looked at each grantee's stated goals and made attempts to measure quality based on whether the site met its goals. And, although he did not rank order the grantee sites, he did report some conclusions related to the quality of programs. In all six sites Dr. Robson found evidence of quality service-learning programs. He stated that, "the reports of numbers involved and served and hours of training and service are indicative of fidelity with grant objectives and serve as an initial assessment of quality." He referred to the following comments as evidence.

His findings reported that Hardin exceeded all of its initial expectations in all cases. The evaluator

Cited the 772 active youth participants in Hardin's projects, which is equivalent to 55 percent of all students K-12 getting actively involved. In addition, Hardin exceeded its initial expectations in hours of service provided, project goals met and partnerships formed.

In Lewistown the overall end outcome goal was that, *the community approached and handled conflicts in a nonviolent way and is committed to respect fundamental human dignity for all citizens regardless of background, economic status, race, religion, etc.* Dr. Robson noted that Lewistown Junior High instituted Peer Mediation, We the Jury, Bullying Prevention Training and a Peace Team for their students in an effort to meet that goal. At the end of the year, 60 percent of the students who responded to a post survey about bullying, reported positive outcomes in perceptions about bullying and bully prevention.

In writing about Libby, Dr. Robson noted that the end outcome was to *strengthen existing disaster response infrastructures and build linkages between schools and homeland security initiatives.* By the end of year 2 the Critical Infrastructure database was 90 percent completed with plans for it to be finished by 2007. He noted that rather than the 16 youth projected to participate in a minimum of 90 hours of high-quality service-learning activities, the project really engaged 40 youth in an average of more than 200 hours of high-quality service-learning activities.

In Lockwood, Dr. Robson noted that the goal, *70 percent of youth and adult participants will increase in awareness and knowledge of emergency first aid, school evacuation protocol and conflict resolution,* was met through training 10 youth who assisted in training 135 more students in CPR/First Aid. In addition activities related to evacuation protocol were completed – including handicap access door designation, and conflict resolution training for 123 4th grade students coupled with the "Reward for Good Behavior" program developed by 8th grade service learners.

Missoula's stated purpose was that *Sentinel High School students and staff will meet homeland security needs through service-learning in areas of school and community safety, school and community disaster preparedness and conflict resolution.* Dr. Robson noted that, in total, students at Sentinel were involved in 1,449 hours of training dedicated to those three areas. He also noted that 465 students participated in 4,125 hours of service focused on safety, disaster preparedness and conflict resolution.

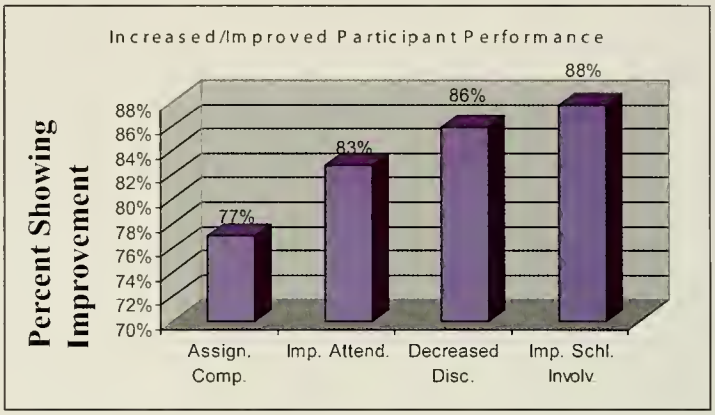
In writing about Plentywood, the evaluator noted that major accomplishments included outreach training to faith-based groups and solidifying partnerships. The Plentywood group was flattered when partners in the community leaders recognized students' capabilities and suggested (provided) ways for students to continue their service to the community!

To answer questions two through five Dr. Robson turned to the excel workbook (Teacher Report Form - Youth Participant School Engagement and Academic Performance.) Using the aggregated data from those reports the evaluator developed the following charts and narratives to illustrate his evaluations.

Question 2.

How do the service-learning grantee programs affect youth participants' engagement in school?

In 2005-06, between 500-650 youth participants were assessed by the teachers who where responsible for the Learn and Serve components of the academic programs. Teachers were asked to assess whether Learn and Serve youth participants (1) increased, (2) decreased, (3) and/or maintained high levels of performance in relation to four school engagement factors: (a) completion of homework assignments, (b) school attendance, (c) decreased disciplinary actions, (d) and improved school involvement. Because not all project participants were assessed as members of a Learn and Serve classroom, the numbers vary in relation to each outcome assessed. In addition, this year, teachers were asked to assess students' pre-project academic status as either High (Above Average = A or B student) or Ave/Below (C, D, or F) student.



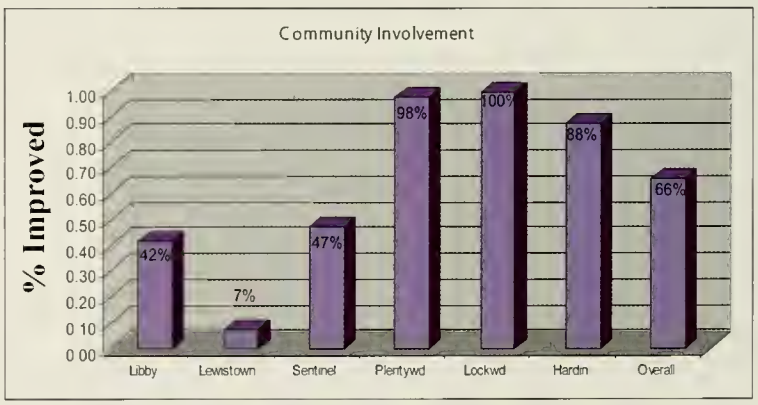
The chart illustrates the results at the end of year 2.

Question 3.

How do the service-learning grantee programs affect youth participants' engagement in the community?

Teachers were asked to assess, retrospectively, whether students increased or decreased their involvement in the community as a result of participation in service-learning activities. The following quote is from Don Robson.

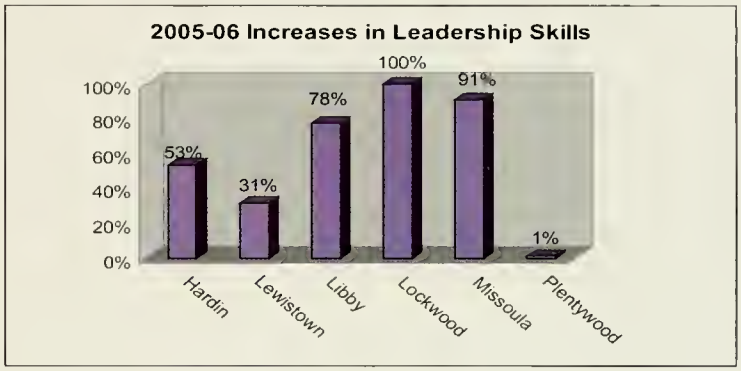
"Clearly the area of greatest improvement for the CPTYL project overall was "community involvement." All projects combined reported 66 percent of all students showed an increase in their level of community involvement. However, this increase was not uniform across the project sites. Chart 3.22 shows that Plentywood, Lockwood, and Hardin programs all report substantial increases in community involvement by students. Libby and Missoula Sentinel report that less than half of their students increased their community involvement, while Lewistown reports less than 10 percent increased involvement.



Increases in Community Involvement by District, 2004-05

Question 4.
How do the service –learning grantee programs affect youth participants' engagement in leadership roles and activities?

Teachers who taught service-learning classes were asked to assess, retrospectively, whether students increased or decreased their leadership skills over the reporting period of the project. The following chart illustrates the extent to which the evaluating teachers viewed service-learning students as having increased leadership skills after involvement in service-learning projects. Even though it may be argued that such measures are subjective it is also true that over the course of a year or two, teachers get to know their students well and can reasonably be considered reliable sources of subjective judgments.



Question 5.
Did the service-learning grantee programs impact Homeland Security (community safety) as a result of the project activities?

Dr. Robson did not include a response to this research question in his report. However, according to the reports submitted by the Montana Office of Public Instruction to the Corporation for National and Community Service on June 30, 2006, over 4,300 K-12 students participated in homeland security related service-learning projects. According to teacher reports, 96 percent of these participants improved their civic knowledge, skills and engagement, and the projects, over the past two years, have resulted in 25 system changes orimprovements.

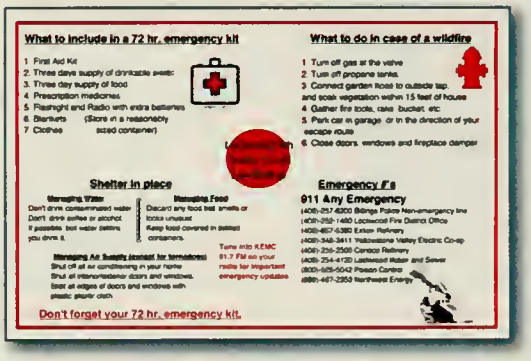
There seems to be no doubt that the answer to question five is YES!

SAMPLE PROJECTS

MONTANA CITIZEN PREPAREDNESS THROUGH YOUTH LEADERSHIP

BIG HORN COUNTY NEWS February 9, 2006 — 13

The students pictured above are from the Hardin Intermediate



What to include in a 72 hr. emergency kit

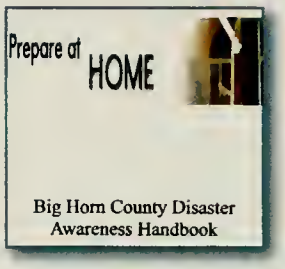
What to do in case of a wildfire

Shelter in place

Emergency #'s

911 Any Emergency

Don't forget your 72 hr. emergency kit.



Prepare at HOME

Big Horn County Disaster Awareness Handbook

GPS/SERVICE-LEARNING WORKSHOP
October 20 & 21, 2005
Presenters: Kandi Luther & Sally Alexander
Location: Hardin Intermediate School
12 OPI Renewal Units

Thursday, October 20, 2005
8:30 a.m. - Registration

9:00 a.m. - 12:00 p.m. - Introduction to Service-Learning
Service-Learning Examples
Basic use of a GPS unit
What is a waypoint
Naming a waypoint
Go to a waypoint

12:00 - 1:00 p.m. - Lunch

1:00 - 4:00 p.m. - Geocaching - Finding the geocaching website
Finding a geocache
Intro to GIS - Navigating on the computers

Friday, October 21, 2005
9:00 a.m. - 11:00 p.m. - Community mapping project using GPS units and digital cameras

11:00 am. - 12:00 p.m. - Downloading digital images

12:00 - 1:00 p.m. - Lunch

1:00-3:00 p.m. - Downloading waypoints onto a map and linking photos to waypoints.

3:00-4:00 p.m. - Service-learning curriculum integration models

Letter from Lockwood Citizen to Students - May 2005

May 2005

The 7th grade extended studies did a fabulous community service project this year, 2004-2005. I have first hand experience how it helped on Lockwood Senior citizen couple!

When my folks, Mary and Jim Wempner, received a kit I was very proud of the students! How they had come up with the idea, planned the kits, organized and filled them, and then distributed them around the Lockwood area, was very impressive.

The kit was designed to help anyone left without electricity due to a severe storm. Well, my folks put this kit to good use in April 2005. Montana always has a good spring snow. My folks, out on our ranch in Lockwood, have been through many of these same snowstorms in April or even May, but this one was particularly bad!

They woke up the next morning to about 10 inches of snow! The ranch had 5 power lines down along the 1 mile of our private road. One of these lines had fallen across the road, making it impassable from one direction.

Mom and Dad, of course, had no electricity or phone, no connection with the outside world. So they got out their newly acquired 'emergency kit', wound up the portable radio to hear the news and weather channel, used the flashlight, had a few snacks and water, and waited for the electricity to come on, which surprisingly did happen later that day for them. Other residents of Lockwood had to wait two days. They particularly enjoyed the wind-up radio!

From a grateful daughter, thank you, thank you, thank you, 7th grade extended studies students for your thoughtful project helping our community's senior citizens.

Mary Kay Rottrup

Prepared by:
Kristine Miller
June Atkins
Josset Gauley

Designed by:
Ellen Leidl

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Montana Office of Public Instruction
Linda McCulloch, Superintendent
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